



# **GEOG372 Introduction to GIS**

Spring 2019

Credits: 3

Section(s): 010 (Lecture), 020/021 (Labs)

Lecture: Tuesday **11:00 AM-12:15 PM**

Labs: Thursday **9:30 AM-10:45 PM** (020L),  
**11:00 AM-12:15 PM** (021L)

## 1. Instructor Information

### Instructor Contact Information

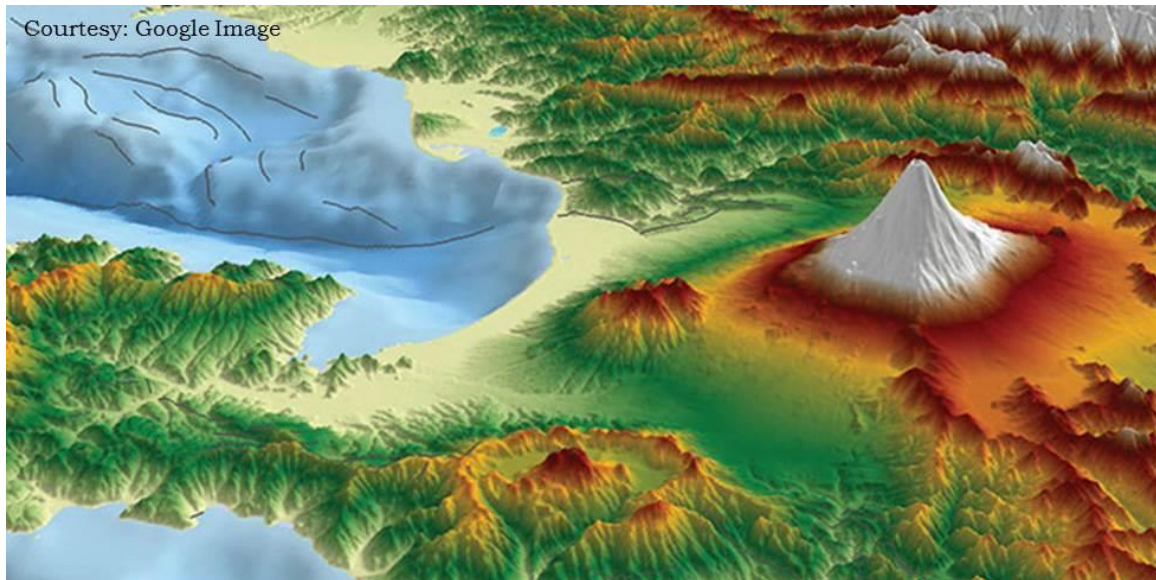
Instructor name: **Dr. Pinki Mondal**  
Email address: mondalp@udel.edu (\*\*preferred mode of communication)  
Office location: Pearson 223  
Office hours: Monday 3:00 PM-4:00 PM, Thursday 12:30 PM-1:30 AM  
(Please email FIRST to set up an appointment whenever possible)  
Phone number: 302-831-2344  
Special contact instructions: *If you have other valid commitments during my office hours, I'm happy to accommodate requests for a virtual appointment. Please email me to check availability.*

### Teaching Assistant(s) Contact Information

TA name: **Mehmet Altingoz**  
E-mail address: altingoz@udel.edu  
Office location: Pearson 205  
Office hours: Wednesday 3:30 PM-5:30 PM  
Phone number: 302-384-1203

TA name: **Daniel Moore**  
E-mail address: dpm@udel.edu  
Office location: Pearson 206  
Office hours: Tuesday 9:00 AM-11:00 AM  
Phone number: 302-831-2294

## 2. Course Description



### Description

This course is designed to provide basic theoretical knowledge in Geographic Information System (GIS) and training in methods exploring GIS applications in the field of environmental science. GIS has revolutionized the way in which many disciplines examine problems, by incorporating spatial and temporal dimensions that were not considered to such depths before. The course covers approaches and definitions regularly used in GIS applications through lectures, readings, quizzes, and lab assignments.

This course is divided into lecture and computer lab components. In computer lab, students will learn the fundamentals of GIS, primarily using ESRI e-learning, ArcGIS Desktop and ArcGIS Online. The lecture component of the class will cover the fundamentals of GIS concepts. In general, the topics are sequenced to provide a background for the lab components.

The course will help students to: (1) begin to master the GIS skills required in conducting geospatial analysis, (2) be well grounded in GIS concepts, and (3) to understand the importance of scale, both spatial and temporal, in problem-solving using real-world data.

### Prerequisites

This course is designed for students with no prior GIS experience. Lab exercise is a major part of this course, and provides the opportunity for students to acquaint themselves with the many practical issues related to using GIS as a research tool. Lab exercises are completed almost entirely using Windows-based computers. The course relies heavily on modern technology, and the instructor will use several online teaching platforms, such as Canvas, ESRI e-learning, and Google Forms in order to instruct/communicate/evaluate. The students must have a basic understanding of these online teaching platforms, and should be comfortable using them effectively. Moreover,

familiarity with data processing in a database system like Excel, and knowledge of transferring data to/from a network server (or a USB) to a home directory is helpful.

## Course Delivery

This is a classroom-based course with significant computer time.

## Reading Materials and Online Resources

There is no textbook for this course. However, reading assignments will be announced as the semester progresses and will be available on Canvas. Valuable resources online will also be emphasized such as ESRI's websites, open source forums, and individual GIS researcher's blogs.

**Required:** USB Flash Drive (~20 Gbytes) for backing up student's individual coursework. Students are required to bring in i>clickers for in-class activities.

## 3. Learning Outcomes

After successfully completing this course, students will be:

1. Conversant in GIS terminology
2. Trained in developing, executing, and presenting GIS analyses
3. Capable of articulating the need for GIS application to environmental sciences

## 4. Learning Resources

### Technology

**CANVAS USE:** In this class, Canvas, UD's online learning management system, will be used for all course activities and communication channels. All assignments will be posted through the Canvas course site unless otherwise directed.

Information on how to use Canvas is available through the [Canvas Student Guide](#).

Canvas is accessible via [MyUD](#) or directly at <http://www.udel.edu/canvas>.

**i>clickers:** In this class, i>clickers will be used to promote learning. Bring your clicker to class every day to obtain full credit for the activities that use them. For more info about clickers, visit: [ats.udel.edu/clickers](http://ats.udel.edu/clickers). In keeping with [UD's Code of Conduct](#) related to cheating, attempts to use more than one clicker per class period are subject to academic dishonesty ramifications.

## 5. Learning Assessment

### Final Grade Breakdown

The final course grade will be calculated using the following components:

Course Component	Percentage of Total
<b>ESRI modules/lab assignments</b>	65
<b>Exams (5% each)</b>	15
<b>In-class quiz</b>	10
<b>Field activity</b>	5
<b>Attendance</b>	5

### Grading Scale

Students will be assigned the following letter grade based on the calculation coming from the course assessment section.

Grade	Interval
A	94.50 and over
A-	89.50 to 94.49
B+	86.50 to 89.49
B	82.50 to 86.49
B-	79.50 to 82.49
C+	76.50 to 79.49
C	72.50 to 76.49
C-	69.50 to 72.49
D+	66.50 to 69.49
D	62.50 to 66.49
D-	59.50 to 62.49
F	Below 59.49

## 6. Course calendar

\*Subject to change as semester progresses

Week (Date)	Theme/Topic	Lab Assignments	Assignments Due
1 (Feb 12/14)	Introduction	Introduction to ArcGIS	---
2 (Feb 19/21)	Nature of Geographic Data	<b>ESRI Module:</b> Getting Started with GIS	Feb 27
3 (Feb 26/28)	Representing Geography	<b>ESRI Modules:</b> (1) Exploring GIS maps; (2) Getting information from a GIS map	Mar 6
4 (Mar 5/7)	Georeferencing	<b>ESRI Modules:</b> (1) Basics of Geographic Coordinate System; (2) Basics of Map Projection	Mar 13
5 (Mar 12/14)	<b>Review</b> for Exam 1	<b>Exam 1</b> (Mar 14)	---
6 (Mar 19/21)	<b>Field Day (Mar 19):</b> GIS Data Collection on Campus	Importing and displaying field data into ArcMap. <b>ESRI Module:</b> Getting Started with the Geodatabase – part I	Mar 27
7 (Mar 26/28)	Creating & Maintaining Geographic Databases	<b>ESRI Module:</b> Getting Started with the Geodatabase – part II <b>Extra Credit: ESRI Module:</b> Finding Geographic Data in ArcGIS	Apr 10
8 (April 2/4)	<b>Spring Break</b>		
9 (April 9/11)	Geovisualization	<b>ESRI Module:</b> Telling Stories with GIS Maps	Apr 17
10 (April 16/18)	<b>Review</b> for Exam 2	<b>Exam 2</b> (Apr 18)	---
11 (April 23/25)	Spatial Data Analysis I	<b>ESRI Module:</b> Solving Spatial Problems using ArcGIS <b>Extra Credit: ESRI Module:</b> Get Started with ArcMap	May 1
12 (April 30/May 2)	Spatial Data Analysis II	<b>ESRI Module:</b> Deriving Rasters for Terrain Analysis using ArcGIS	May 8
14 (May 7/9)	Geospatial Models	<b>ESRI Module:</b> Finding Areas at Risk of Flooding in a Cloudburst	May 15
15 (May 14/16)	<b>Review</b> for Exam 3	<b>Exam 3</b> (May 16)	Both Extra Credit Labs (2% each) are due on May 17 by 5 PM

## 7. Course Policy Document

### Attendance

There will be no "Incomplete" given for this course except for a documented medical excuse at the discretion of the instructor. You are required to attend all classes and be present in the class during the allocated times. Absences need to be notified in writing in advance of the class. More than two unexcused absences in this course will result in a failing grade.

Lab assignments must be turned in on or before the due date posted in Canvas to receive credit. Each student must turn in what is completed or receive a failing grade for the particular assignment. However, the student is given the opportunity to turn in two assignments past the due date posted in Canvas by 1 week. Names of individuals should be clearly indicated on all assignments.

Absences on religious holidays listed in university calendars are recognized as an excused absence. Nevertheless, students are urged to remind the instructor of their intention to be absent on a particular upcoming holiday. Absences on religious holidays not listed in university calendars, as well as absences due to athletic participation or other extracurricular activities in which students are official representatives of the university, shall be recognized as excused absences when the student informs the instructor in writing during the first two weeks of the semester of these planned absences for the semester. For an excused absence, the student will have to submit a make-up assignment no later than one week after the period of absence.

### Communication

If you have any course-related question, please contact the TAs first. In case you need to contact me over email, you can expect a response within 2 business days. Grade-related questions should always be directed to the TAs. Any announcement for emergencies/class cancellation will be posted on Canvas, and/or will be communicated via email.

### Academic Integrity

Please familiarize yourself with UD policies regarding academic dishonesty. To falsify the results of one's research, to steal the words or ideas of another, to cheat on an assignment, to re-submit the same assignment for different classes, or to allow or assist another to commit these acts corrupts the educational process. Students are expected to do their own work and neither provide or obtain unauthorized assistance. Complete details of the university's academic integrity policies and procedures can be found at <http://www1.udel.edu/studentconduct/policyref.html> Office of Student Conduct, 218 Hulliher Hall, (302) 831-2117. E-mail: [student-conduct@udel.edu](mailto:student-conduct@udel.edu)

### Harassment and Discrimination

The University of Delaware works to promote an academic and work environment that is free from all forms of discrimination, including harassment. As a member of the community, your rights, resource and responsibilities are reflected in the non-

discrimination and sexual misconduct policies. Please familiarize yourself with these policies at [www.udel.edu/oei](http://www.udel.edu/oei) . You can report any concerns to the University's Office of Equity & Inclusion, at 305 Hullahen Hall, (302) 831-8063 or you can report anonymously through UD Police (302) 831-2222 or the EthicsPoint Compliance Hotline at [www1.udel.edu/compliance](http://www1.udel.edu/compliance). You can also report any violation of UD policy on harassment, discrimination, or abuse of any person at this site: [sites.udel.edu/sexualmisconduct/how-to-report/](http://sites.udel.edu/sexualmisconduct/how-to-report/)

## Faculty Statement on Disclosures of Instances of Sexual Misconduct

If, at any time during this course, I happen to be made aware that a student may have been the victim of sexual misconduct (including sexual harassment, sexual violence, domestic/dating violence, or stalking), I am obligated to inform the university's Title IX Coordinator. The university needs to know information about such incidents in order to offer resources to victims and to ensure a safe campus environment for everyone. The Title IX Coordinator will decide if the incident should be examined further. If such a situation is disclosed to me in class, in a paper assignment, or in office hours, I promise to protect your privacy--I will not disclose the incident to anyone but the Title IX Coordinator. For more information on Sexual Misconduct policies, where to get help, and how to reporting information, please refer to [www.udel.edu/sexualmisconduct](http://www.udel.edu/sexualmisconduct). At UD, we provide 24-hour crisis assistance and victim advocacy and counseling. Contact 302-831-1001, UD Helpline 24/7/365, to get in touch with a sexual offense support advocate.

For information on various places you can turn for help, more information on Sexual Misconduct policies, where to get help, and reporting information please refer to [www.udel.edu/sexualmisconduct](http://www.udel.edu/sexualmisconduct)

## Inclusion of Diverse Learning Needs

Any student who thinks he/she may need an accommodation based on a disability should contact the Office of Disability Support Services (DSS) office as soon as possible. The DSS office is located at 240 Academy Street, Alison Hall Suite 130, Phone: 302-831-4643, fax: 302-831-3261, DSS website ([www.udel.edu/DSS/](http://www.udel.edu/DSS/)). You may contact DSS at [dssoffice@udel.edu](mailto:dssoffice@udel.edu)

## Non-Discrimination

The University of Delaware does not discriminate against any person on the basis of race, color, national origin, sex, gender identity or expression, sexual orientation, genetic information, marital status, disability, religion, age, veteran status or any other characteristic protected by applicable law in its employment, educational programs and activities, admissions policies, and scholarship and loan programs as required by Title IX of the Educational Amendments of 1972, the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964, and other applicable statutes and University policies. The University of Delaware also prohibits unlawful harassment including sexual harassment and sexual violence.

For inquiries or complaints related to non-discrimination policies, please contact:

Director, Institutional Equity & Title IX Coordinator- Susan L. Groff, Ed.D.  
[groff@udel.edu](mailto:groff@udel.edu), 305 Hullahen Hall Newark, DE 19716 (302) 831-8063

For complaints related to Section 504 of the Rehabilitation Act of 1973 and/or the Americans with Disabilities Act, please contact: Director, Office of Disability Support Services, Anne L. Jannarone, M.Ed., Ed.S. - [ajannaro@udel.edu](mailto:ajannaro@udel.edu)  
Alison Hall, Suite 130, Newark, DE 19716 (302) 831-4643 OR contact the U.S. Department of Education - Office for Civil Rights  
([wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm](http://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm))